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Reviews

THE SUCKING LICE. By G. F. Ferris. *Memoirs of the Pacific Coast Entomological Society*. San Francisco, California, 1951. Vol. 1. ix + 320 pp., 124 figs. \$6.00.

Professor Ferris has truly done a magnificent piece of work in his latest monograph. In brief, it may be said that this will be the definitive monograph on the Anoplura for many years to come, in conjunction with his "Contributions Towards a Monograph of the Sucking Lice." In the field of insect ectoparasitology, it meets its equal only in Dr. F. L. Werneck's "Os Mallofagos de Mamíferos."

The first fifty pages are devoted to a comprehensive survey of the morphology of the order based on three representative species. This section is based upon the able work of C. J. Stojanovich. Following this is a brief survey of the taxonomic status of the group and the views of Dr. Ferris on maintaining the Anoplura as a separate order from the Mallophaga. A new system of family classification is established, and with our present knowledge of the group, it seems to be quite acceptable.

Most of the remainder of the book consists of a review of the families, subfamilies, genera, and species of the order. Each family is briefly characterized; then generic and specific keys are given. An outstanding feature of the book is that the type species of each genus is illustrated by a one or two page plate. There are also illustrations, in the same fine detail, of the species of economic importance, so this book should be of interest to

the economic entomologist as well as to the taxonomist. Each species is listed with a partial synonymy (the entire one may be found in the earlier works of Dr. Ferris), followed by brief notes on hosts, distribution, and various taxonomic details. The final section consists of a host list and a concise essay on the zoogeography.

For students of evolution, the section on "The Problem of the Pediculi of Man" should be of great interest. Dr. Ferris' definition of the species is in essence comparable to those stated by such workers as A. E. Emerson and Sewall Wright. His treatment of *Pediculus humanus* Linnaeus is to consider it as a single species, with no division into subspecies for the so-called "head" and "body louse." From the comprehensive evidence presented, it seems at best, these two forms might be the extremes of a cline. Lice from any one relatively isolated population of man do present certain differences analogous to the host differences. But when lice from another population are examined, they possess their own slight variations, and also exhibit, within the normal range of variation, features of other groups. As the author points out, the entomologist has the same difficulties in the nomenclature within this species as the anthropologist has with man. The most puzzling situation of all exists in *Pediculus pseudohumanus* Ewing, described from a New World monkey, subsequently recorded from various neotropical Indians (including "dried head from Ecuador") and natives of Tahiti, and the Marquesan Islands. Is this form a distinct species, and if so, how did it acquire the peculiar distribution; or is it the result of random fixation of small isolated populations of *P. humanus* culminating in accidental similarity?

Though the bibliography is considered as closed July 1, 1951, several papers issued prior to that date are inadvertently omitted (Büttiker,¹ Sasa,² and Dubinin³). Dubinin's Russian paper is of special interest, as it contains the first report of a fossil Anopluran, *Neohaematopinus relectus* Dubinin, recorded from *Citellus glacialis* Vinogradov, a frozen Pleistocene fossil from the Indigirka River Basin of Siberia (64° 2' N., 142° 0' E.). Careful comparisons of the figures of this species with that of *N. laeviusculus* (Grube) from a closely related extant species, *Citellus evermanni* (Brandt), show no good morphological criteria for their separation. If we use the definitions of the "New Systematicists," they would be considered as one distinct species due to the presumed genetic continuity of approximately one

¹ BÜTTIKER, W. 1949. Acta Tropica 6: 158-60, 6 figs.

² SASA, M. 1950. Jap. J. Expt. Med. 20: 715-17, 2 figs.

³ DUBININ, V. B. 1948. Akad. Nauk SSSR Doklady (Nov. Ser.) 62: 417-20, 3 figs.

million years. If presumably genetic distinctions can be demonstrated, a better term might be "chronocline" as used by Huxley.⁴

In a recent paper by Brinck⁵ several interesting points are brought up which are not considered by Dr. Ferris. The distribution of a species may be homotopic or heterotopic, i.e., present throughout the host range, or occurring in only part of the host range. Data are presented for several species to verify these assertions. A further point that Brinck makes is that a eurytopic species has far greater evolutionary potentialities than a stenotopic species, though further evidence is necessary for the verification of this hypothesis.

"The Sucking Lice" fulfills a long vacant gap in the field of entomology, and Dr. Ferris is to be congratulated upon accomplishing this goal in such a fine manner.

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ELEMENTS OF PLANT PROTECTION. By Louis Pyenson. John Wiley and Sons, Inc. New York, Chapman and Hall Limited, London, England. 1951. \$4.96.

This volume is a text book on the elements of plant protection. It is sketchy, and at least from an entomological standpoint, incomplete. For instance, the word "phytotoxicity" does not appear either in the glossary or the index. Neither does the word "toxicity," yet the problem of phytotoxicity in relation to insecticides used for insect control is extremely important.

At most, it is a good outline for a course in plant protection, touching as it does, on mammals, plant diseases, birds, insects, other arthropods, and other things affecting plants. After exhausting it as an outline, one would start building the course on outside material.

One criticism I have of the book is that Mr. Pyenson succeeded in making the simple complicated. Take as an example the sentence "A diseased plant may be defined as one that is continuously being irritated by a causal factor that upsets the normal activity of cells or organs so as to produce visible evidence of disease in the form of characteristic symptoms."

Farther along he states "No plant species or variety exists that is free from disease." I sincerely wish that plant pathology were far enough advanced to make such a statement.—DOUGLASS BURNETT, JR.

⁴ HUXLEY, J. S. 1939. *Bijdr. Dierk.* 27: 491-520.

⁵ BRINCK, PER. 1948. *Opuscula Ent.* 1948: 129-56, 3 figs.